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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,515	03/27/2001	Ricardo H. Bruce	23-002	2817

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EXAMINER

LEROUX, ETIENNE PIERRE

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 06/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/819,515	BRUCE ET AL.	
	Examiner	Art Unit	
	Etienne P LeRoux	2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention..

Claim 1 recites “defining in the data storage device information related to a first data structure with a plurality of copies of a second data structure.” One of ordinary skill in the art would not be able to make and use instant invention because the relationship between the first data structure and the second data structure is unclear. Furthermore, using the claimed invention is difficult because no information is claimed for the second data structure. It is unclear whether the second data structure, (i) includes information (ii) includes the same information as the first data structure.

Claim 1 recites “rebuilding information related to the first data structure using the plurality of copies of the second data structure upon corruption thereof.” One of ordinary skill in the art can not make and use the invention as it is unclear which data is corrupted. Furthermore, a skilled artisan would not know how to rebuild the information in the first data structure by using a plurality of copies, e.g., there could be multiple copies of the information, or there could be one copy stored in a plurality of segments of the second data structure.

Claims 2-7 are rejected for being dependent from a rejected base claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8-12 and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No. 5,239,640 issued to Froemke et al (hereafter Froemke '640).

Regarding claims 1, 8 and 15, Froemke '640 discloses:
defining in the data storage device information related to a first data structure [Fig 1, 24] with a plurality of copies of a second data structure [Fig 1, 22 and 26]
rebuilding information related to the first data structure using the plurality of copies of the second data structure upon corruption thereof [col 8, line 67 through col 9, line 10]

Regarding claims 2, 9 and 16, Froemke '640 discloses the storage device performs a write operation [col 3, lines 35-37]; and defining the information related to a first data structure includes updating the plurality of copies of the second data structure prior to the write operation [col 6, lines 44-50]

Regarding claims 3, 10 and 17, Froemke '640 discloses differentiating which of the plurality of copies of the second data structure has the most recent information [col 8, lines 32-44]

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Regarding claims 4, 11 and 18, Froemke '640 discloses at most one of the plurality of copies of the second data structure can be corrupted [col 4, lines 37-43]

Regarding claims 5, 6, 12 and 19, Froemke '640 discloses rebuilding the information related to the first data structure includes using one or more of the plurality of copies of the second data structure [col 9, lines 1-9]

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 13, 14, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froemke '640 as applied to claim 1 above, and further in view of. US Pat No 6,170,066 issued to See (hereafter See '066]

Regarding claims 7, 14 and 21, Froemke '640 discloses the essential elements of the claimed invention except for pre-erased recovery blocks. See '066 discloses pre-erased recovery blocks [col 1, line 59 through col 2, line 6]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Froemke '640 to include pre-erased recovery blocks as taught by See '066 for the purpose of providing a means to store data in a storage device comprising flash EEPROM [col 1, lines 50-55].

Regarding claims 13 and 20, Froemke '640 discloses the essential elements of the claimed invention except for pointers to other data structures. See '066 discloses pointers to

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other data structures [col 7, lines 12-15]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Froemke '640 to include pointers to other data structures as taught by See '066 for the purpose of indicating an empty data structure [col 7, line 12-15].

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.:

1. US Pat No. 5,664,096 issued to Ichinomiya et al discloses preventing data distortion caused by a power cut to a disk array.
2. US Pat No. 5,602,987 issued to Harari et al discloses transferring to nonvolatile Flash EEPROM memory on loss of power so that data in cache memory is not lost.
3. US Pat No 5,758,054 issued to Katz et al discloses determining whether a write operation was interrupted on loss of power and reconstructing any data that may be inconsistent because of the loss of power.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (703) 305-0620.

The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (703) 308-1436.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Etienne LeRoux

May 30, 2003



SAFET METJAHIC
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